Title (en)

PTC PLANAR HEATER AND METHOD FOR ADJUSTING THE RESISTANCE OF THE SAME

Title (de)

FLACHES PTC-HEIZELEMENT UND WIDERSTANDSREGELUNGSVERFAHREN FÜR DIESES ELEMENT

Title (fr)

ELEMENT CHAUFFANT PLAT C.T.P. ET PROCEDE DE REGULATION DE LA VALEUR DE RESISTANCE DE CET ELEMENT

Publication

EP 0692798 A1 19960117 (EN)

Application

EP 95906527 A 19950127

Priority

- JP 9500095 W 19950127
- JP 993294 A 19940131
- JP 15615694 A 19940707
- JP 28214594 A 19941116

Abstract (en)

A flat PTC heater according to the present invention is formed by bonding one or a plurality of thin plate type PTC ceramic members (1) on a surface of each of which a pair of electrodes are provided to an insulator (3). When more than one thin plate type PTC ceramic members (1) are provided, electrodes (2) of the same polarity are electrically parallel-connected by lead wires (6). The occurrence of warpage, leakage and short-circuiting is prevented by forming a layer (4) of an elastic insulating material on an electrode-carrying surface. The occurence of warpage after printing and firing operations is prevented by setting the thickness of the thin plate type PTC ceramic member to not less than 0.5 mm. In the resistance value regulating method according to the present invention, in which the resistance between the electrodes (2) on each PTC ceramic member (1) on the flat PTC heater is regulated, a conductive passage on an electrode pattern is cut off at an intermediate portion thereof, or predetermined portions (8) at which a conductive passage has been cut off in advance are connected by soldering, whereby the resistance between the PTC ceramic members is regulated. In a thin PTC plate unit according to the present invention, a PTC thermistor element having a pair of electrodes on one surface thereof is fixed directly and closely on an insulating board, and an insulating board is pasted on the other surface of the thermistor element. <MATH>

IPC 1-7

H01C 7/02

IPC 8 full level

H01C 7/02 (2006.01); **H05B 3/14** (2006.01)

CPC (source: EP KR US)

H01C 7/02 (2013.01 - EP KR US); **H01C 7/021** (2013.01 - EP US); **H05B 3/141** (2013.01 - EP US); **H05B 3/148** (2013.01 - EP US); **H05B 3/20** (2013.01 - EP); H05B 2203/006 (2013.01 - EP)

Cited by

WO2024046918A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

WO 9520819 A1 19950803; AU 1466995 A 19950815; AU 693152 B2 19980625; CA 2159496 A1 19950803; CA 2159496 C 19990504; CN 1037038 C 19980114; CN 1123063 A 19960522; CN 1173798 A 19980218; CN 1173799 A 19980218; EP 0692798 A1 19960117; EP 0692798 A4 19970514; KR 960701454 A 19960224; TW 299557 B 19970301; US 5804797 A 19980908

DOCDB simple family (application)

JP 9500095 W 19950127; AU 1466995 A 19950127; CA 2159496 A 19950127; CN 95190068 A 19950127; CN 97104554 A 19970325; CN 97104555 A 19970325; EP 95906527 A 19950127; KR 19950704111 A 19950925; TW 84101653 A 19950222; US 52236695 A 19950918